

FILE 'HCME' ENTERED AT 10:59:40 ON 31 JAN 2003

=> file agricola biosis caplus caplus

=> s nprl or nim1

L1 469 NPR1 OR NIM1

=> duplicate remove L1

L2 247 DUPLICATE REMOVE L1 (222 DUPLICATES REMOVED)

=> d ti 1-50

L2 ANSWER 1 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI TA Repeat Variation, **Npr1** Expression, and Blood Pressure

L2 ANSWER 2 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Natriuretic peptide system in fetal heart and circulation.

L2 ANSWER 3 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Analysis of the roles of salicylic acid and **nim1/npr1** in *arabidopsis thaliana* pathogen defense

L2 ANSWER 4 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Molecular and genetic analysis of **nim1**-dependent and independent induced defense response pathways in *arabidopsis thaliana*

L2 ANSWER 5 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Human **NIM1** kinase.

L2 ANSWER 6 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Collections of transgenic animal lines in which a subset of cells characterized by expression of an endogenous "characterizing" gene and uses

L2 ANSWER 7 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Protein and cDNA sequences of human and mouse Rh type B glycoprotein ion transporter and their expression in mammalian cells

L2 ANSWER 8 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Promoters isolated from *Arabidopsis thaliana* defense-associated genes and uses in expression of transgene in plant cells

L2 ANSWER 9 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Rational Design of Artificial Zinc-Finger Proteins Using a Nondegenerate Recognition Code Table

L2 ANSWER 10 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI DUPLICATE 1

TI A gain-of-function mutation in an *Arabidopsis* Toll Interleukin1 Receptor Nucleotide Binding Site-Leucine-Rich Repeat type R gene triggers defense responses and results in enhanced disease resistance.

L2 ANSWER 11 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI DUPLICATE 2

TI Cell cycle-dependent assembly of a Gin4-septin complex.

L2 ANSWER 12 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Isolation and characterization of broad-spectrum disease-resistant *Arabidopsis* mutants

L2 ANSWER 13 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI DUPLICATE 3

TI *Arabidopsis SON1* is an F-box protein that regulates a novel induced defense response independent of both salicylic acid and systemic acquired

resistance.

L2 ANSWER 14 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 4

TI In vivo interaction between **NPR1** and transcription factor TGA2 leads to salicylic acid-mediated gene activation in *Arabidopsis*.

L2 ANSWER 15 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 5

TI Regulation of the MPG1 hydrophobin gene in the rice blast fungus *Magnaporthe grisea*.

L2 ANSWER 16 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 6

TI Preexisting systemic acquired resistance suppresses hypersensitive response-associated cell death in *Arabidopsis hr11* mutant.

L2 ANSWER 17 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 7

TI Targets of AtWRKY6 regulation during plant senescence and pathogen defense.

L2 ANSWER 18 OF 247 AGRICOLA DUPPLICATE 8

TI Benzothiadiazole induced priming for potentiated responses to pathogen infection, wounding, and infiltration of water into leaves requires the **NPR1/NIM1** gene in *Arabidopsis*.

L2 ANSWER 19 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Characterization of early, chitin-induced gene expression in *Arabidopsis*

L2 ANSWER 20 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Structure and genomic sequence analysis of murine guanylyl cyclase/atrial natriuretic peptide receptor-A gene.

L2 ANSWER 21 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Isolation of a SIR-like gene, SIR-T8, that is overexpressed in thyroid carcinoma cell lines and tissues.

L2 ANSWER 22 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Genetic disruption of guanylyl cyclase/natriuretic peptide receptor-A potentiates the expression of nitric oxide synthase in kidney.

L2 ANSWER 23 OF 247 AGRICOLA DUPPLICATE 9

TI Role of salicylic acid and **NIM1/NPR1** in race-specific resistance in *Arabidopsis*.

L2 ANSWER 24 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 10

TI Ventricular expression of natriuretic peptides in *Npr1-/-* mice with cardiac hypertrophy and fibrosis.

L2 ANSWER 25 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 11

TI Potentiation of developmentally regulated plant defense response by AtWRKY18, a pathogen-induced *Arabidopsis* transcription factor.

L2 ANSWER 26 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPPLICATE 12

TI Evidence for regulation of resistance in *Arabidopsis* to Egyptian cotton worm by salicylic and jasmonic acid signaling pathways.

L2 ANSWER 27 OF 247 AGRICOLA DUPPLICATE 13

TI Characterization of a novel, defense-related *Arabidopsis* mutant, *cir1*, isolated by luciferase imaging.

L2 ANSWER 28 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 14

TI Signals involved in *Arabidopsis* resistance to *Trichoplusia ni* caterpillars induced by virulent and avirulent strains of the phytopathogen *Pseudomonas syringae*.

L2 ANSWER 29 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Upregulation of distal tubular renin expression in natriuretic peptide receptor-A deficient mutant mice.

L2 ANSWER 30 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 15

TI Knockout of *Arabidopsis* ACCELERATED-CELL-DEATH11 encoding a sphingosine transfer protein causes activation of programmed cell death and defense.

L2 ANSWER 31 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 16

TI Age-related resistance in *Arabidopsis* is a developmentally regulated defense response to *Pseudomonas syringae*.

L2 ANSWER 32 OF 247 AGRICOLA
TI The *Arabidopsis* *hrl1* mutation reveals novel overlapping roles for salicylic acid, jasmonic acid and ethylene signalling in cell death and defence against pathogens. DUPLICATE 17

L2 ANSWER 33 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 18

TI Ozone-induced ethylene production is dependent on salicylic acid, and both salicylic acid and ethylene act in concert to regulate ozone-induced cell death.

L2 ANSWER 34 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 19

TI *Arabidopsis* RPP4 is a member of the RPP5 multigene family of TIR-NB-LRR genes and confers downy mildew resistance through multiple signalling components.

L2 ANSWER 35 OF 247 AGRICOLA
TI Tobacco Rar1, EDS1 and **NPR1/NIM1** like genes are required for N-mediated resistance to tobacco mosaic virus. DUPLICATE 20

L2 ANSWER 36 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 21

TI Runaway cell death, but not basal disease resistance, in lsd1 is SA- and **NIM1/NPR1**-dependent.

L2 ANSWER 37 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 22

TI Priming in plant-pathogen interactions.

L2 ANSWER 38 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 23

TI The tobacco mosaic virus resistance gene, N.

L2 ANSWER 39 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 24

TI Over-expression of TGA5, which encodes a bZIP transcription factor that interacts with **NIM1/NPR1**, confers SAR-independent resistance in *Arabidopsis thaliana* to *Peronospora parasitica*.

L2 ANSWER 40 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Development of a high-throughput yeast two-hybrid screening system to study protein-protein interactions in plants.

L2 ANSWER 41 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Role of salicylic acid, ethylene and jasmonic acid signaling in
ssil-conferred, **NPR1**-independent defense responses.

L2 ANSWER 42 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Arabidopsis TGA2 mediates **NPR1**-dependent and SA-responsive
activation of transcription.

L2 ANSWER 43 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 25

TI Genomic structure, organization, and promoter region analysis of murine
guanylyl cyclase/atrial natriuretic peptide receptor-A gene.

L2 ANSWER 44 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Genomic structure and organization of murine guanylyl cyclase/natriuretic
peptide receptor-A gene.

L2 ANSWER 45 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Cross-talk between salicylate- and jasmonate-dependent induced defenses in
Arabidopsis

L2 ANSWER 46 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 26

TI Yeast Npi3/Bro1 is involved in ubiquitin-dependent control of permease
trafficking.

L2 ANSWER 47 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of SAR and identification of other pathogen-induced defense
responses in Arabidopsis

L2 ANSWER 48 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Systemic acquired resistance in Arabidopsis

L2 ANSWER 49 OF 247 AGRICOLA
TI DUPLICATE 27
Chemically induced virus resistance in Arabidopsis thaliana is independent
of pathogenesis-related protein expression and the **NPR1** gene.

L2 ANSWER 50 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 28

TI The Arabidopsis gain-of-function mutant d111 spontaneously develops
lesions mimicking cell death associated with disease.

=> d bib abs 3 4

L2 ANSWER 3 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2003:38394 CAPLUS
TI Analysis of the roles of salicylic acid and **nim1/npr1**
in arabidopsis thaliana pathogen defense
AU Rairdan, Gregory James
CS Cornell Univ., Ithaca, NY, USA
SO (2002) 169 pp. Avail.: UMI, Order No. DA3050476
From: Diss. Abstr. Int., B 2002, 63(4), 1629
DT Dissertation
LA English
AB Unavailable

L2 ANSWER 4 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2003:38393 CAPLUS
TI Molecular and genetic analysis of **nim1**-dependent and independent
induced defense response pathways in arabidopsis thaliana
AU Kim, Han Suk
CS Cornell Univ., Ithaca, NY, USA
SO (2002) 160 pp. Avail.: UMI, Order No. DA3050478
From: Diss. Abstr. Int., B 2002, 63(4), 1627
DT Dissertation

LA English
AB Unavailable

=> d ti 51-75

L2 ANSWER 51 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 29
TI Targeted disruption of the gene for natriuretic peptide receptor-A worsens hypoxia-induced cardiac hypertrophy.

L2 ANSWER 52 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Epistasis analysis of dnd1-mediated resistance responses.

L2 ANSWER 53 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI **NPR1**-independent defense pathway in the *Arabidopsis thaliana* ss1 mutant.

L2 ANSWER 54 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Two pathways act in an additive rather than obligatorily synergistic fashion to induce systemic acquired resistance and PR gene expression

L2 ANSWER 55 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Mapping molecular interactions in transgenic plants using protein fragments complementation assays (PCA)

L2 ANSWER 56 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Haplotypes and genotyping of the human **NPR1** gene encoding natriuretic peptide receptor A

L2 ANSWER 57 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Cloning, sequence and diagnostic and therapeutic applications of human **NIM1** kinase

L2 ANSWER 58 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Single nucleotide polymorphisms in human genes

L2 ANSWER 59 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Homologs of the systemic acquired disease resistance gene **NIM1** of *Arabidopsis thaliana* from crop plants

L2 ANSWER 60 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Maize **NPR1**-interacting proteins and cDNAs and transgenic plants with altered levels of **NPR1**-interacting protein

L2 ANSWER 61 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Enhanced stress tolerance in maize via manipulation of cell cycle regulatory genes

L2 ANSWER 62 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of a novel *Arabidopsis thaliana* negative regulator of systemic acquired resistance, SNI1, discovered through a screen for suppressors of **npr1-1**, and uses thereof in plant disease resistance

L2 ANSWER 63 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Regulation of systemic acquired resistance by **NPR1** and its partners.

L2 ANSWER 64 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Ubiquitin is required for sorting to the vacuole of the yeast general amino acid permease, Gap1.

L2 ANSWER 65 OF 247 AGRICOLA
TI The **Npr1** kinase controls biosynthetics and endocytic sorting of

DUPLICATE 30

the yeast Gap1 permease.

L2 ANSWER 66 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Transcript expression in *Saccharomyces cerevisiae* at high salinity
DUPLICATE 31

L2 ANSWER 67 OF 247 AGRICOLA
TI A fatty acid desaturase modulates the activation of defense signaling
pathways in plants.

L2 ANSWER 68 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 32
TI CAC3 (MSI1) suppression of RAS2G19V is independent of chromatin assembly
factor I and mediated by **NPR1**.

L2 ANSWER 69 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 33
TI Dynamic localization of the Swi1 regulator Hsl7 during the *Saccharomyces cerevisiae* cell cycle.

L2 ANSWER 70 OF 247 AGRICOLA
TI Evidence for an important role of WRKY DNA binding proteins in the regulation of **NPR1** gene expression.
DUPLICATE 34

L2 ANSWER 71 OF 247 AGRICOLA
TI Salicylic acid and **NIM1/NPR1**-independent gene induction by incompatible *Peronospora parasitica* in *Arabidopsis*.
DUPLICATE 35

L2 ANSWER 72 OF 247 AGRICOLA
TI Activation of an EDS1-mediated R-gene pathway in the sncl mutant leads to constitutive, **NPR1**-independent pathogen resistance.
DUPLICATE 36

L2 ANSWER 73 OF 247 AGRICOLA
TI **NIM1** overexpression in *Arabidopsis* potentiates plant disease resistance and results in enhanced effectiveness of fungicides.
DUPLICATE 37

L2 ANSWER 74 OF 247 AGRICOLA
TI Molecular responses to aphid feeding in *Arabidopsis* in relation to plant defense pathways.
DUPLICATE 38

L2 ANSWER 75 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 39
TI TIP41 interacts with TAP42 and negatively regulates the TOR signaling pathway.

=> d bib abs 73

L2 ANSWER 73 OF 247 AGRICOLA
AN 2002:1586 AGRICOLA
DN IND23240760
TI **NIM1** overexpression in *Arabidopsis* potentiates plant disease resistance and results in enhanced effectiveness of fungicides.
AU Friedrich, L.; Lawton, K.; Dietrich, R.; Willits, M.; Cade, R.; Ryals, J.
SD Molecular plant-microbe interactions : MPMI, Sept 2001. Vol. 14, No. 9. p.
1114-1124
Publisher: St. Paul, MN : APS Press, [c1987-
CODEN: MPMIEL; ISSN: 0894 0282
NTE Includes references
CY Minnesota; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The **NIM1** (for noninducible immunity, also known as **NPR1**) gene is required for the biological and chemical activation of systemic acquired resistance (SAR) in *Arabidopsis*. Overexpression of **NIM1**

in wild-type plants (hereafter referred to as **NIM1** plants or lines) results in varying degrees of resistance to different pathogens. Experiments were performed to address the basis of the enhanced disease resistance responses seen in the **NIM1** plants. The increased resistance observed in the **NIM1** lines correlated with increased **NIM1** protein levels and rapid induction of PR1 gene expression, a marker for SAR induction in *Arabidopsis*, following pathogen inoculation. Levels of salicylic acid (SA), an endogenous signaling molecule required for SAR induction, were not significantly increased compared with wild-type plants. SA was required for the enhanced resistance in **NIM1** plants, however, suggesting that the effect of **NIM1** overexpression is that plants are more responsive to SA or a SA-dependent signal. This hypothesis is supported by the heightened responsiveness that **NIM1** lines exhibited to the SAR-inducing compound, benzo(1,2,3)-thiadiazole-7-carbothioic acid S-methyl ester. Furthermore, the increased efficacy of three fungicides was observed in the **NIM1** plants, suggesting that a combination of transgenic and chemical approaches may lead to effective and durable disease-control strategies.

=> d ti 76-100

L2 ANSWER 76 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 40

TI Pressure-independent enhancement of cardiac hypertrophy in natriuretic peptide receptor A-deficient mice.

L2 ANSWER 77 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 41

TI Direct visualization of protein interactions in plant cells.

L2 ANSWER 78 OF 247 AGRICOLA
TI Identification of a 2,6-dichloroisonicotinic-acid-sensitive protein kinase from tobacco by affinity chromatography on benzothiadiazole-sepharose and NIM-metal chelate adsorbent. DUPLICATE 42

L2 ANSWER 79 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 43

TI Genetic disruption of atrial natriuretic peptide receptor-A alters renin and angiotensin II levels.

L2 ANSWER 80 OF 247 AGRICOLA
TI A recessive mutation in the *Arabidopsis* SS12 gene confers SA- and **NPR1**-independent expression of PR genes and resistance against bacterial and oomycete pathogens. DUPLICATE 44

L2 ANSWER 81 OF 247 AGRICOLA
TI Trans-dominant suppression of plant TGA factors reveals their negative and positive roles in plant defense responses. DUPLICATE 45

L2 ANSWER 82 OF 247 AGRICOLA
TI Resistance to *Pseudomonas syringae* conferred by an *Arabidopsis thaliana* coronatine-insensitive (coil) mutation occurs through two distinct mechanisms. DUPLICATE 46

L2 ANSWER 83 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Augmentation of renal nitric oxide synthase expression in natriuretic peptide receptor-A deficient mice.

L2 ANSWER 84 OF 247 AGRICOLA
TI Environmentally sensitive, SA-dependent defense responses in the cpr22 mutant of *Arabidopsis*. DUPLICATE 47

L2 ANSWER 85 OF 247 AGRICOLA DUPLICATE 48

TI Abnormal callose response phenotype and hypersusceptibility to *Peronospora parasitica* in defense-compromised *Arabidopsis nim1-1* and salicylate hydroxylase-expressing plants.

L2 ANSWER 86 OF 247 AGRICOLA DUPLICATE 49

TI The *Arabidopsis* downy mildew resistance gene, *RPP13-Nd*, functions independently of *NDR1* and *EDS1* and does not require the accumulation of salicylic acid.

L2 ANSWER 87 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 50

TI Negative regulation of defense responses in plants by a conserved MAPKK kinase.

L2 ANSWER 88 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 51

TI Novel **NPR1** polymorphic variants and its exclusion as a candidate gene for medullary cystic kidney disease (ADMCKD) type 1.

L2 ANSWER 89 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 52

TI Genetic dissection of systemic acquired resistance.

L2 ANSWER 90 OF 247 AGRICOLA DUPLICATE 53
TI Characterization of an *Arabidopsis-Phytophthora* Pathosystem: resistance requires a functional *PAD2* gene and is independent of salicylic acid, ethylene and jasmonic acid signalling.

L2 ANSWER 91 OF 247 AGRICOLA DUPLICATE 54
TI A role for salicylic acid and **NPR1** in regulating cell growth in *Arabidopsis*.

L2 ANSWER 92 OF 247 AGRICOLA DUPLICATE 55
TI The *Arabidopsis* aberrant growth and death2 mutant shows resistance to *Pseudomonas syringae* and reveals a role for **NPR1** in suppressing hypersensitive cell death.

L2 ANSWER 93 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A disease resistance pathway in rice similar to the **NPR1**-mediated pathway in *Arabidopsis*.

L2 ANSWER 94 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of systemic acquired resistance by **NPR1** and its partners

L2 ANSWER 95 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Dissection of signalling networks triggering resistance to downy mildew in *Arabidopsis*.

L2 ANSWER 96 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Regulation of systemic acquired resistance by **NPR1** and its partners.

L2 ANSWER 97 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Resistance to Turnip crinkle virus: Understanding defense signaling against a viral pathogen of *Arabidopsis*.

L2 ANSWER 98 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Combining genetics and expression profiling for studies of signaling pathways controlling activation of plant defense responses.

L2 ANSWER 99 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 56

TI Probenazole induces systemic acquired resistance in *Arabidopsis* with a novel type of action.

L2 ANSWER 100 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Expression of plastidial omega-3 fatty acid desaturase (FAD7) gene in
Arabidopsis is activated by salicylic acid-dependent but **NPR1**
-independent pathway.

=> d bib abs 93

L2 ANSWER 93 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2003:52442 BIOSIS
DN PREV200300052442
TI A disease resistance pathway in rice similar to the **NPR1**
-mediated pathway in Arabidopsis.
AU Chern, Mawsheng (1); Canlas, Patrick E. (1); Fitzgerald, Heather A. (1);
Yadav, Ram C. (1); Ronald, Pamela C. (1); Dong, Xinnian
CS (1) Department of Plant Pathology, University of California Davis, Davis,
CA, USA: mschern@ucdavis.edu USA
SO Plant Biology (Rockville), (2001) Vol. 2001, pp. 176-177. print.
Meeting Info.: Joint Annual Meetings of the American Society of Plant
Biologists and the Canadian Society of Plant Physiologists Providence,
Rhode Island, USA July 21-25, 2001 American Society of Plant Biologists
DT Conference
LA English

=> d ti 101-150

L2 ANSWER 101 OF 247 AGRICOLA DUPLICATE 57
TI NIMIN-1, NIMIN-2 and NIMIN-3, members of a novel family of proteins from
Arabidopsis that interact with **NPR1/NIM1**, a key
regulator of systemic acquired resistance in plants.

L2 ANSWER 102 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Utilizing the systemic acquired resistance signal transduction pathway to
enhance plant health

L2 ANSWER 103 OF 247 AGRICOLA DUPLICATE 58
TI Evidence for a disease resistance pathway in rice similar to the
NPR1-mediated signaling pathway in Arabidopsis.

L2 ANSWER 104 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of gene expression of pathogenesis-related protein

L2 ANSWER 105 OF 247 AGRICOLA DUPLICATE 59
TI Rhizobacteria-mediated induced systematic resistance triggering,
signalling and expression.

L2 ANSWER 106 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Resistance to turnip crinkle virus: Understanding defense signaling
against a viral pathogen of Arabidopsis.

L2 ANSWER 107 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A disease resistance pathway in rice similar to the **NPR1**
-mediated pathway in Arabidopsis.

L2 ANSWER 108 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Regulation of SAR-related gene expression by **NPR1** and its
Partners.

L2 ANSWER 109 OF 247 BICSIIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI DUPLICATE 60
TI Method for protecting plants.

L2 ANSWER 110 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI DNA binding proteins that interact with **NPR1**.

L2 ANSWER 111 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Gene encoding a protein involved in the signal transduction cascade
leading to systemic acquired resistance in plants.

L2 ANSWER 112 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Wheat and rice acquired resistance gene **npr1** and protein and
transgenic plants with enhanced disease resistance

L2 ANSWER 113 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Identification of DNA control elements responsive to specific stimuli
using genome expression profiles

L2 ANSWER 114 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of corn **NPR1** gene and uses thereof in
plant disease control

L2 ANSWER 115 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Rice proteins that regulate systemic acquired resistance and their cDNAs
and transgenic plants with enhanced pathogen resistance

L2 ANSWER 116 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Homologs of the systemic acquired disease resistance gene **NIM1**
of *Arabidopsis thaliana* from crop plants

L2 ANSWER 117 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI DNA binding proteins that interact with **npr1** for therapeutic
protection from plant pathogens

L2 ANSWER 118 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes,
chimeric **NPR1** genes, and uses thereof in plant disease control

L2 ANSWER 119 OF 247 AGRICOLA DUPLICATE 61
TI Nitric oxide and salicylic acid signaling in plant defense.

L2 ANSWER 120 OF 247 AGRICOLA DUPLICATE 62
TI Enhancement of induced disease resistance by simultaneous activation of
salicylate- and jasmonate-dependent defense pathways in *Arabidopsis*
thaliana.

L2 ANSWER 121 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 63
TI Tryptophan permease gene TAT2 confers high-pressure growth in
Saccharomyces cerevisiae.

L2 ANSWER 122 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 64
TI Regulation of yeast H⁺-ATPase by protein kinases belonging to a family
dedicated to activation of plasma membrane transporters.

L2 ANSWER 123 OF 247 AGRICOLA DUPLICATE 65
TI Nuclear localization of **NPR1** is required for activation of PR
gene expression.

L2 ANSWER 124 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 66
TI Roles of salicylic acid, jasmonic acid, and ethylene in cpr-induced
resistance in *Arabidopsis*.

L2 ANSWER 125 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 67
TI Fumonisin B1-induced cell death in *Arabidopsis* protoplasts requires

jasmonate-, ethylene-, and salicylate-dependent signaling pathways.

L2 ANSWER 126 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 68

TI Arabidopsis MAP kinase 4 negatively regulates systemic acquired resistance.

L2 ANSWER 127 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 69

TI Riboflavin induces disease resistance in plants by activating a novel signal transduction pathway.

L2 ANSWER 128 OF 247 AGRICOLA DUPLICATE 70

TI Tobacco TGA factors differ with respect to interaction with **NPR1**, activation potential and DNA-binding properties.

L2 ANSWER 129 OF 247 CAPLUS COPYRIGHT 2003 ACS

TI Role of salicylic acid in disease-resistant reaction of plants. Discovery of novel protein groups which transduce signals from salicylic acid

L2 ANSWER 130 OF 247 AGRICOLA DUPLICATE 71

TI Salicylic acid has a role in regulating gene expression during leaf senescence.

L2 ANSWER 131 OF 247 AGRICOLA DUPLICATE 72

TI Resistance of turnip crinkle virus in Arabidopsis is regulated by two host genes and is salicylic acid dependent but **NPR1**, ethylene and jasmonate independent.

L2 ANSWER 132 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 73

TI Multiple pathways regulating fission yeast mitosis upon environmental stresses.

L2 ANSWER 133 OF 247 AGRICOLA DUPLICATE 74

TI Downy mildew (*Peronospora parasitica*) resistance genes in Arabidopsis vary in functional requirements for **NDR1**, **EDS1**, **NPR1** and salicylic acid accumulation.

L2 ANSWER 134 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI The highly malignant phenotype of anaplastic thyroid carcinoma cell lines is recessive.

L2 ANSWER 135 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 75

TI Uncoupling salicylic acid-dependent cell death and defense-related responses from disease resistance in the Arabidopsis mutant *acd5*.

L2 ANSWER 136 OF 247 AGRICOLA DUPLICATE 76

TI The Arabidopsis **NPR1/NIM1** protein enhances the DNA binding activity of a subgroup of the TGA family of bZIP transcription factors.

L2 ANSWER 137 OF 247 AGRICOLA DUPLICATE 77

TI **NPR1** differentially interacts with members of the TGA/OBF family of transcription factors that bind an element of the *PR-1* gene required for induction by salicylic acid.

L2 ANSWER 138 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI Reactive oxygen, **NDR1** and **NPR1** in Arabidopsis disease resistance signaling.

L2 ANSWER 139 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 78

TI Dynamic expression of Broad-Complex isoforms mediates temporal control of

an ecdysteroid target gene at the onset of *Drosophila* metamorphosis.

L2 ANSWER 140 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Engineering disease resistance in wheat by cloning defense genes.

L2 ANSWER 141 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Altered behavior following RNA interference knockdown of a *C. elegans*
G-protein coupled receptor by ingested double stranded RNA

L2 ANSWER 142 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Altered forms of the **NIM1** gene conferring disease resistance in
plants.

L2 ANSWER 143 OF 247 AGRICOLA DUPLICATE 79
TI *Arabidopsis thaliana* PAD4 encodes a lipase-like gene that is important for
salicylic acid signaling.

L2 ANSWER 144 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 80
TI Interaction of **NPR1** with basic leucine zipper protein
transcription factors that bind sequences required for salicylic acid
induction of the PR-1 gene.

L2 ANSWER 145 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 81
TI Hypertension associated with decreased testosterone levels in natriuretic
peptide receptor A gene-knockout and gene-duplicated mutant mouse models.

L2 ANSWER 146 OF 247 AGRICOLA DUPLICATE 82
TI The gain-of-function *Arabidopsis* acd6 mutant reveals novel regulation and
function of the salicylic acid signaling pathway in controlling cell
death, defenses, and cell growth.

L2 ANSWER 147 OF 247 AGRICOLA DUPLICATE 83
TI Inhibition of protoporphyrinogen oxidase expression in *Arabidopsis* causes
a lesion-mimic phenotype that induces systemic acquired resistance.

L2 ANSWER 148 OF 247 AGRICOLA DUPLICATE 84
TI Enhanced expression and activation of the alternative oxidase during
infection of *Arabidopsis* with *Pseudomonas syringae* pv tomato.

L2 ANSWER 149 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 85
TI Identification and cloning of a negative regulator of systemic acquired
resistance, SNI1, through a screen for suppressors of **npr1-1**.

L2 ANSWER 150 OF 247 AGRICOLA DUPLICATE 86
TI Harpin induces disease resistance in *Arabidopsis* through the systemic
acquired resistance pathway mediated by salicylic acid and the
NIM1 gene.

=> d bib abs 142 123 118 112 103

L2 ANSWER 142 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:279051 BIOSIS
DN PREV200000279051
TI Altered forms of the **NIM1** gene conferring disease resistance in
plants.
AU Uknas, Scott Joseph (1); Hunt, Michelle Denise; Steiner, Henry-York;
Ryals, John Andrew
CS (1) Cary, NC USA
ASSIGNEE: Novartis AG
PI US 5986082 November 16, 1999
SO Official Gazette of the United States Patent and Trademark Office Patents.

(Nov. 16, 1999) Vol. 1228, No. 3, pp. No pagination. e-file.

ISSN: 0098-1133.

DT Patent
LA English
AB The **NIM1** gene product is a structural homologue of the mammalian signal transduction factor IkappaB subclass alpha. The present invention exploits this discovery to provide altered forms of **NIM1** that act as dominant-negative regulators of the systemic acquired resistance (SAR) signal transduction pathway. These altered forms of **NIM1** confer the opposite phenotype as the **nim1** mutant in plants transformed with the altered forms of **NIM1**; i.e., the transgenic plants exhibit constitutive SAR gene expression and a constitutive immunity (CIM) phenotype. The present invention further concerns DNA molecules encoding altered forms of the **NIM1** gene, expression vectors containing such DNA molecules, and plants and plant cells transformed therewith. The invention also concerns methods of activating SAR in plants and conferring to plants a CIM phenotype and broad spectrum disease resistance by transforming the plants with DNA molecules encoding altered forms of the **NIM1** gene product.

DUPPLICATE 65

L2 ANSWER 123 OF 247 AGRICOLA
AN 2001:21343 AGRICOLA
DN IND22298171
TI Nuclear localization of **NPR1** is required for activation of PR gene expression.
AU Kinkema, M.; Fan, W.; Dong, X.
AV DNAL (QK725.P532)
SO The Plant cell, Dec 2000. Vol. 12, No. 12. p. 2339-2350
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651

NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English

L2 ANSWER 118 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2000:335557 CAPLUS
DN 132:344136
TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes, chimeric **NPR1** genes, and uses thereof in plant disease control
IN Famodu, Omolayo O.; Fang, Yiwen; Liu, Zhan-Bin; Miao, Guo-Hua; Odell, Joan T.
PA E.I. du Pont de Nemours and Company, USA
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PT	WO 2000028036	A2	20000518	WO 1999-US25953	19991104
	WO 2000028036	A3	20001109		
	W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GP, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2345351	AA	20000518	CA 1999-2345351	19991104
	EP 1124963	A2	20010822	EP 1999-971853	19991104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

US 6355462 B1 20020312 US 1999-433248 19991104
 PRAI US 1998-107242P P 19981105
 WO 1999-US25953 W 19991104
 AB This invention provides protein and cDNA sequences of corn, rice and wheat **NPR1** proteins and genes, which have homol. to *Arabidopsis thaliana* **NPR1**. The invention also relates to the construction of a chimeric gene encoding all or a portion of the **NPR1** homolog, in sense or antisense orientation, wherein expression of the chimeric gene results in prodn. of altered levels of the **NPR1** in a transformed plant cell. The invention further relates to the use of the **NPR1** for inducing plant disease resistance.

L2 ANSWER 112 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 2000:824431 CAPLUS
 DN 134:14027
 TI Wheat and rice acquired resistance gene **npr1** and protein and transgenic plants with enhanced disease resistance
 IN Bougri, Oleg V.; Römmens, Caius M. T.; Srivastava, Neelam; Swords, Kathleen M.
 PA Monsanto Co., USA
 SO PCT Int. Appl., 101 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	FIND	DATE	APPLICATION NO.	DATE
P1	WO 2000070069	A1	20001123	WO 2000 US13307	20000512
				W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NC, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
EP	1171620	A1	20020116	EP 2000-930738	20000512
				R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
PRAI	BR 2000010530	A	20020423	BR 2000-10530	20000512
	JP 2002543845	T2	20021224	JP 2000-618475	20000512
	US 6506962	B1	20030114	US 2000-569804	20000512
PRAI	US 1999-133965P	P	19990513		
	WO 2000-US13307	W	20000512		

AB The invention describes the **npr1** genes of wheat and rice and their encoded proteins. A method of using the genes to make transgenic plants that are resistant to disease is also provided. Thus, the cDNAs for rice **npr1** and wheat **npr2** genes were cloned and sequenced. Transgenic rice expressing the rice **npr1** gene or the wheat **npr2** gene displayed enhanced resistance to *Magnaporthe grisea*.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 103 OF 247 AGRICOLA
 AN 2001:83320 AGRICOLA
 DN IND23239381
 TI Evidence for a disease-resistance pathway in rice similar to the **NPR1**-mediated signaling pathway in *Arabidopsis*.
 AU Chern, M.S.; Fitzgerald, H.A.; Yadav, R.C.; Canlas, P.E.; Dong, X.; Ronald, P.C.
 AV DNAL (QK710.P68)
 SD The Plant journal : for cell and molecular biology, July 2001. Vol. 27, No. 2. p. 101 113
 Publisher: Oxford : Blackwell Sciences Ltd.

DUPLICATE 58

ISSN: 0960-7412
NTE Includes references
CY England; United Kingdom
DT Article
FS Non-U.S. Imprint other than FAO
LA English
AB The *Arabidopsis NPR1/NIM1* gene is a key regulator of systemic acquired resistance (SAR). Over-expression of **NPR1** leads to enhanced resistance in *Arabidopsis*. To investigate the role of **NPR1** in monocots, we over-expressed the *Arabidopsis NPR1* in rice and challenged the transgenic plants with *Xanthomonas oryzae* pv. *oryzae* (Xoo), the rice bacterial blight pathogen. The transgenic plants displayed enhanced resistance to Xoo. RNA blot hybridization indicates that enhanced resistance requires expression of **NPR1** mRNA above a threshold level in rice. To identify components mediating the resistance controlled by **NPR1**, we used **NPR1** as bait in a yeast two-hybrid screen. We isolated four cDNA clones encoding rice **NPR1** interactors (named rTGA2.1, rTGA2.2, rTGA2.3 and rLG2) belonging to the bZIP family. rTGA2.1, rTGA2.2 and rTGA2.3 share 75, 76 and 78% identity with *Arabidopsis* TGA2, respectively. In contrast, rLG2 shares highest identity (81%) to the maize liguleless (LG2) gene product, which is involved in establishing the leaf blade-sheath boundary. The interaction of **NPR1** with the rice bZIP proteins in yeast was impaired by the **npr1-1** and **npr1-2** mutations, but not by the **nim1** mutation. The **NPR1**-rTGA2.1 interaction was confirmed by an in vitro pull-down experiment. In gel mobility shift assays, rTGA2.1 binds to the rice RCH10 promoter and to a cis-element required specifically for salicylic acid responsiveness. This is the first demonstration that the *Arabidopsis NPR1* gene can enhance disease resistance in a monocot plant. These results also suggest that monocot and dicot plants share a conserved signal transduction pathway controlling **NPR1**-mediated resistance.

=> d ti 151-200

L2 ANSWER 151 OF 247 AGRICOLA DUPLICATE 87
TI The *Arabidopsis* *ss1* mutation restores pathogenesis-related gene expression in **npr1** plants and renders defensin gene expression salicylic acid dependent

L2 ANSWER 152 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 88
TI **Nim1**-related kinases coordinate cell cycle progression with the organization of the peripheral cytoskeleton in yeast.

L2 ANSWER 153 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Development of disease resistant plants and novel fungicides

L2 ANSWER 154 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 89
TI Interaction between the fission yeast *nim1/cdrl* protein kinase and a dynamin-related protein.

L2 ANSWER 155 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 90
TI Interleukin-1alpha regulates G1 cell cycle progression and arrest in thyroid carcinoma cell lines **NIM1** and NPA.

L2 ANSWER 156 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Synergistic use of microbicides and strongly expressed systemic acquired resistance genes in increasing plant resistance to pathogens

L2 ANSWER 157 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Use of alleles of the **NIM1** gene of *Arabidopsis* to improve levels

of disease resistance in plants

L2 ANSWER 158 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Acquired resistance **NPR1** genes from *Arabidopsis thaliana* and *Nicotiana glutinosa* and their use for genetic engineering

L2 ANSWER 159 OF 247 AGRICOLA DUPLICATE 91
TI Separate jasmonate-dependent and salicylate-dependent defense-response pathways in *Arabidopsis* are essential for resistance to distinct microbial pathogens.

L2 ANSWER 160 OF 247 AGRICOLA DUPLICATE 92
TI The TOR nutrient signalling pathway phosphorylates **NPR1** and inhibits turnover of the tryptophan permease.

L2 ANSWER 161 OF 247 AGRICOLA DUPLICATE 93
TI Generation of broad-spectrum disease resistance by overexpression of an essential regulatory gene in systemic acquired resistance.

L2 ANSWER 162 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 94
TI The protein kinase Cdr2, related to **Nim1/Cdr1** mitotic inducer, regulates the onset of mitosis in fission yeast.

L2 ANSWER 163 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 95
TI Natriuretic peptide receptor 1 expression influences blood pressures of mice in a dose-dependent manner.

L2 ANSWER 164 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 96
TI The spermidine transport system is regulated by ligand inactivation, endocytosis, and by the Npr1p Ser/Thr protein kinase in *Saccharomyces cerevisiae*.

L2 ANSWER 165 OF 247 AGRICOLA DUPLICATE 97
TI Impaired fungicide activity in plants blocked in disease resistance signal transduction.

L2 ANSWER 166 OF 247 AGRICOLA DUPLICATE 98
TI A novel signalling pathway controlling induced systemic resistance in *Arabidopsis*.

L2 ANSWER 167 OF 247 AGRICOLA DUPLICATE 99
TI The phytochrome response of the *Lemna gibba* **NPR1** gene is mediated primarily through changes in abscisic acid levels.

L2 ANSWER 168 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 100
TI The MEP2 ammonium permease regulates pseuaohyphal differentiation in *Saccharomyces cerevisiae*.

L2 ANSWER 169 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A novel defence pathway in *Arabidopsis* induced by biocontrol bacteria.

L2 ANSWER 170 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Natural variation in a neuropeptide Y receptor homolog modifies social behavior and food response in *C. elegans*

L2 ANSWER 171 OF 247 AGRICOLA DUPLICATE 101
TI Uncoupling PR gene expression from **NPR1** and bacterial resistance: characterization of the dominant *arabidopsis cpr6-1* mutant.

L2 ANSWER 172 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 102

TI Isolation of new *Arabidopsis* mutants with enhanced disease susceptibility to *Pseudomonas syringae* by direct screening.

L2 ANSWER 173 OF 247 AGRICOLA DUPLICATE 103
TI Correlation of defense gene induction defects with powdery mildew susceptibility in *Arabidopsis* enhanced disease susceptibility mutants.

L2 ANSWER 174 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 104
TI *Arabidopsis*: A weed leading the field of plant-pathogen interactions.

L2 ANSWER 175 OF 247 AGRICOLA DUPLICATE 105
TI Requirement for the induced expression of a cell wall associated receptor kinase for survival during the pathogen response.

L2 ANSWER 176 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI The genetic studies and molecular cloning of the *Arabidopsis* **NPR1** gene: an important regulatory component in systemic acquired resistance

L2 ANSWER 177 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI The **NIM1** gene involved in disease resistance in plants through systemic acquired resistance and its uses

L2 ANSWER 178 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 106
TI Hypertension, cardiac hypertrophy, and sudden death in mice lacking natriuretic peptide receptor A.

L2 ANSWER 179 OF 247 AGRICOLA DUPLICATE 107
TI The *cpr5* mutant of *Arabidopsis* expresses both **NPR1**-dependent and **NPR1**-independent resistance.

L2 ANSWER 180 OF 247 AGRICOLA DUPLICATE 108
TI Nif1, a novel mitotic inhibitor in *Schizosaccharomyces pombe*.

L2 ANSWER 181 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 109
TI A fission yeast homolog of *CDC20/p55PC-DC/fizzy* is required for recovery from DNA damage and genetically interacts with *p34-cdc2*.

L2 ANSWER 182 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 110
TI Markers of cell polarity during and after nitrogen starvation in *Schizosaccharomyces pombe*.

L2 ANSWER 183 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Genetic mapping of the C-type natriuretic peptide receptor (*Npr2*) gene to mouse chromosome 4

L2 ANSWER 184 OF 247 AGRICOLA DUPLICATE 111
TI The *Arabidopsis* **NIM1** protein shows homology to the mammalian transcription factor inhibitor I kappa B.

L2 ANSWER 185 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 112
TI Physical mapping of the human connexin 40 (GJA5), flavin-containing monooxygenase 5, and natriuretic peptide receptor A genes on 1q21.

L2 ANSWER 186 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The *Arabidopsis thaliana* **NIM1** protein is homologous to the mammalian transcription factor inhibitor I kappa B.

L2 ANSWER 187 OF 247 AGRICOLA DUPLICATE 113
TI Relationships between protein isoforms and genetic functions demonstrate functional redundancy at the Broad-Complex during *Drosophila*

metamorphosis.

L2 ANSWER 188 OF 247 AGRICOLA DUPLICATE 114
TI Role of the fission yeast **nim1** protein kinase in the cell cycle
response to nutritional signals.

L2 ANSWER 189 OF 247 AGRICOLA DUPLICATE 115
TI Nitrogen starvation of the rice blast fungus *Magnaporthe grisea* may act as
an environmental cue for disease symptom expression.

L2 ANSWER 190 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 116
TI Evidence for a mammalian **Nim1**-like kinase pathway acting at the
G0-1/S transition.

L2 ANSWER 191 OF 247 AGRICOLA DUPLICATE 117
TI Characterization of a salicylic acid-insensitive mutant (*sail1*) of
Arabidopsis thaliana, identified in a selective screen utilizing the
SA-inducible expression of the *tms2* gene.

L2 ANSWER 192 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 118
TI The *Arabidopsis NPR1* gene that controls systemic acquired
resistance encodes a novel protein containing ankyrin repeats.

L2 ANSWER 193 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 119
TI Roles of *Wee1* and **Nim1** protein kinases in regulating the switch
from mitotic division to sexual development in *Schizosaccharomyces pombe*.

L2 ANSWER 194 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Genetic and molecular characterization of genes required for pathogenicity
in the rice blast fungus, *Magnaporthe grisea* (nitrogen metabolism,
acropetal, trans acting, spore patterning)

L2 ANSWER 195 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of *nim1* protein kinase in the life cycle of the fission yeast
Schizosaccharomyces pombe

L2 ANSWER 196 OF 247 AGRICOLA DUPLICATE 120
TI Ozone-induced responses in *Arabidopsis thaliana*: the role of salicylic
acid in the accumulation of defense-related transcripts and induced
resistance.

L2 ANSWER 197 OF 247 AGRICOLA DUPLICATE 121
TI Pathogen-induced systemic activation of a plant defensin gene in
Arabidopsis follows a salicylic acid-independent pathway.

L2 ANSWER 198 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 122
TI Spatial organization of the **Nim1**-*Wee1*-*Cdc2* mitotic control
network in *Schizosaccharomyces pombe*.

L2 ANSWER 199 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 123
TI A search for proteins that interact genetically with histone H3 and H4
amino termini uncovers novel regulators of the *Wee1* kinase in
Saccharomyces cerevisiae.

L2 ANSWER 200 OF 247 AGRICOLA DUPLICATE 124
TI Isolation of *Arabidopsis* mutants with enhanced disease susceptibility by
direct screening.

L2 ANSWER 192 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 AN 1997:87707 BIOSIS
 DN PREV199799379420
 TI The *Arabidopsis NPR1* gene that controls systemic acquired
 resistance encodes a novel protein containing ankyrin repeats.
 AU Cao, Hui (1); Glazebrook, Jane; Clarke, Joseph D. (1); Volko, Sigrid;
 Dong, Xinnian (1)
 CS (1) Dev. Cell Molecular Biol. Group, Dep. Botany, Duke Univ., Durham, NC
 27708-1000 USA
 SO Cell, (1997) Vol. 88, No. 1, pp. 57-63.
 ISSN: 0092-8674.
 DT Article
 LA English
 AB The *Arabidopsis NPR1* gene controls the onset of systemic
 acquired resistance (SAR), a plant immunity, to a broad spectrum of
 pathogens that is normally established after a primary exposure to
 avirulent pathogens. Mutants with defects in *NPR1* fail to
 respond to various SAR-inducing treatments, displaying little expression
 of pathogenesis-related (PR) genes and exhibiting increased susceptibility
 to infections. *NPR1* was cloned using a map-based approach and
 was found to encode a novel protein containing ankyrin repeats. The lesion
 in one *npr1* mutant allele disrupted the ankyrin consensus
 sequence, suggesting that these repeats are important for *NPR1*
 function. Furthermore, transformation of the cloned wild-type *NPR1*
 gene into *npr1* mutants not only complemented the mutations,
 restoring the responsiveness to SAR induction with respect to PR-gene
 expression and resistance to infections, but also rendered the transgenic
 plants more resistant to infection by *P. syringae* in the absence of SAR
 induction.

L2 ANSWER 177 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:42499 CAPLUS
 DN 128:113033
 TI The *NIM1* gene involved in disease resistance in plants through
 systemic acquired resistance and its uses
 IN Ryals, John Andrew; Delaney, Terrence Patrick; Friedrich, Leslie Bethards;
 Weymann, Kristianna; Johnson, Jay Earl; Lawton, Kay Ann; Ellis, Daniel
 Murray
 PA Novartis A.-G., Switz.; Ryals, John Andrew; Delaney, Terrence Patrick;
 Friedrich, Leslie Bethards; Weymann, Kristianna; Johnson, Jay Earl
 SO PCT Int. Appl., 149 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9749822	A1	19971231	WO 1997-EP1218	19970310
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	FW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, CA, GN, ML, MP, NE, SN, TD, TG				
	CA 2258576	AA	19971231	CA 1997-2258576	19970310
	AU 9720261	A1	19980114	AU 1997-20261	19970310
	AU 719639	B2	20000511		
	EP 923648	A1	19990623	EP 1997-908210	19970310
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9709925	A	19990810	BR 1997-9925	19970310

CN 1228813	A	19990915	CN 1997-195642	19970310
JP 2000512502	T2	20000926	JP 1998-502146	19970310
KR 2000022203	A	20000425	KR 1998-710622	19981221
US 2002152499	A1	20021017	US 2002-79035	20020219
PRAI US 1996-20272P	P	19960621		
US 1996-24883P	P	19960830		
US 1996-33177P	P	19961213		
US 1996-773559	A	19961227		
US 1997-35022P	P	19970110		
US 1996-34379P	P	19961227		
US 1997-34730P	P	19970110		
WO 1997-EP1218	W	19970310		
US 1997-880179	A1	19970620		
US 2000-577799	A1	20000524		
AB	The invention concerns the location and characterization of an <i>Arabidopsis</i> gene (designated NIM1) that plays a key role in the systemic acquired resistance (SAR) pathway and, in connection with chem. and biol. inducers, enables induction of SAR gene expression and broad spectrum disease resistance to plants. The gene may be of use in increasing pathogen resistance in plants. Null alleles (nim1) of the NIM1 gene cannot induce the SAR pathway, including genes for pathogenesis-related proteins. The gene was cloned using map-based cloning methods.			

L2 ANSWER 176 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:40618 CAPLUS
 DN 128:71350
 TI The genetic studies and molecular cloning of the *Arabidopsis* **NPR1** gene: an important regulatory component in systemic acquired resistance
 AU Cao, Hui
 CS Duke Univ., Durham, NC, USA
 SO (1997) 140 pp. Avail.: UMI, Order No. DA9805294
 From: Diss. Abstr. Int., B 1998, 58(8), 3988
 DT Dissertation
 LA English
 AB Unavailable

L2 ANSWER 157 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:406088 CAPLUS
 DN 129:93054
 TI Use of alleles of the **NIM1** gene of *Arabidopsis* to improve levels of disease resistance in plants
 IN Ryals, John Andrew; Lawton, Kay Ann; Uknnes, Scott Joseph; Steiner, Henry-York; Hunt, Michelle Denise; Friedrich, Leslie Bethards; et al.
 PA Novartis A.-G., Switz.; Ryals, John Andrew; Lawton, Kay Ann; Uknnes, Scott Joseph; Steiner, Henry-York
 SO PCT Int. Appl., 206 pp.
 CODEN: PIXXD2
 DT Patent
 LA English

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9826082	A1	19980618	WO 1997-EP7012	19971212
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BE, BY, CA, CH, CN, CU, CZ, DE, DR, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LF, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, FW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 6091004	A	20000718	US 1997-880179	19970620
	FR 2757875	A1	19980703	FR 1997-15741	19971208
	IT 1298472	B1	20000110	IT 1997-MI2741	19971211

NL 1007779	A1	19980617	NL 1997-1007779	19971212	
NL 1007779	C2	19980722	AU 1998-56631	19971212	
AU 9856631	A1	19980703			
AU 727179	B2	20001207	EP 1997-952940	19971212	
EP 944728	A1	19990929			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
US 5986082	A	19991116	US 1997-989478	19971212	
CN 1241215	A	20000112	CN 1997-180553	19971212	
BR 9714398	A	20000502	BR 1997-14398	19971212	
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PRAI US 1996-33177P	P	19961213			
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US 1997-34730P	P	19970110			
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US 1996-20272P	P	19960621			
US 1996-24883P	P	19960830			
WO 1997-EP7012	W	19971212			
US 2000-577799	A1	20000524			
AB	A key gene in the SAR (systemic acquired resistance) pathway of <i>Arabidopsis thaliana</i> , the NIM1 (noninducible immunity 1) gene is cloned and characterized for use in increasing the strength of a broad spectrum response to plant disease. The NIM1 gene product is a structural homolog of the mammalian signal transduction factor 1. kappa.B subclass .alpha.. Alleles of the gene that encode dominant-neg.				
	regulators of the systemic acquired resistance (SAR) signal transduction pathway are described. These alleles confer a phenotype opposite to that of the nim1 mutant, i.e. the transgenic plants exhibit constitutive SAR gene expression and a constitutive immunity (CIM) phenotype. The gene was mapped to a region of chromosome 1 between the <i>ngal1</i> gene and the SSLP marker ATHGENEA. Cosmids covering this region were used to further map the gene and to clone a wild-type allele by complementation. Progeny of <i>Arabidopsis</i> plants transformed with the cloned gene showed increased resistance to fungal pathogens.				
RE.CNT 9	THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD				
	ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L2 ANSWER 158 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:126277 CAPLUS
 DN 128:201804
 TI Acquired resistance **NPR1** genes from *Arabidopsis thaliana* and *Nicotiana glutinosa* and their use for genetic engineering
 IN Ausubel, Frederick M.; Glazebrook, Jane; Dong, Xinnian; Cao, Hui
 PA General Hospital Corporation, USA; Duke University
 SO PCT Int. Appl., 128 PP.
 CODEN: PIXXD2
 DT Patent
 LA English

FAN.CNT 1		KIND	DATE	APPLICATION NO.	DATE
PATENT NO.	-----	-----	-----	-----	-----
PI WO 9806748	A1	19980219	WO 1997-US13994	19970808	
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9739128	A1	19980306	AU 1997-39128	19970808	

AU 735665	B2	20010712	CN 1997-198570	19970808
CN 1232468	A	19991020	BR 1997-11130	19970808
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EP 1019436	A1	20000719	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE	
JP 2002500503	T2	20020108	JP 1998-509902	19970808
US 2002138872	A1	20020926	US 1997-908884	19970808
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PRAI US 1996-23851P	P	19960809		
US 1997-35166P	P	19970110		
US 1997-46769P	P	19970516		
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WO 1997-US13994	W	19970808		

AB Genomic and cDNA sequences encoding plant acquired resistance proteins are provided from cruciferous (*Arabidopsis thaliana*) and solanaceous (*Nicotiana glutinosa*) plants. *Npr* mutants showed that the **NPR1** gene of *A. thaliana* is active in controlling the defense response against a broad spectrum of pathogens, and the gene was cloned using a map-based positional cloning strategy. The **NPR1** protein comprised 593 amino acid residues and contained ankyrin-repeat and G-protein coupled receptor motifs as well as nuclear localization signals. **NPR1** mediates the expression of pathogenesis-related polypeptides. Expression of these polypeptides in transgenic plants are useful for providing enhanced defense mechanisms to combat plant diseases.

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIPTION PRICE	-3.26	-3.26

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